



ENVIRONMENTAL *News*



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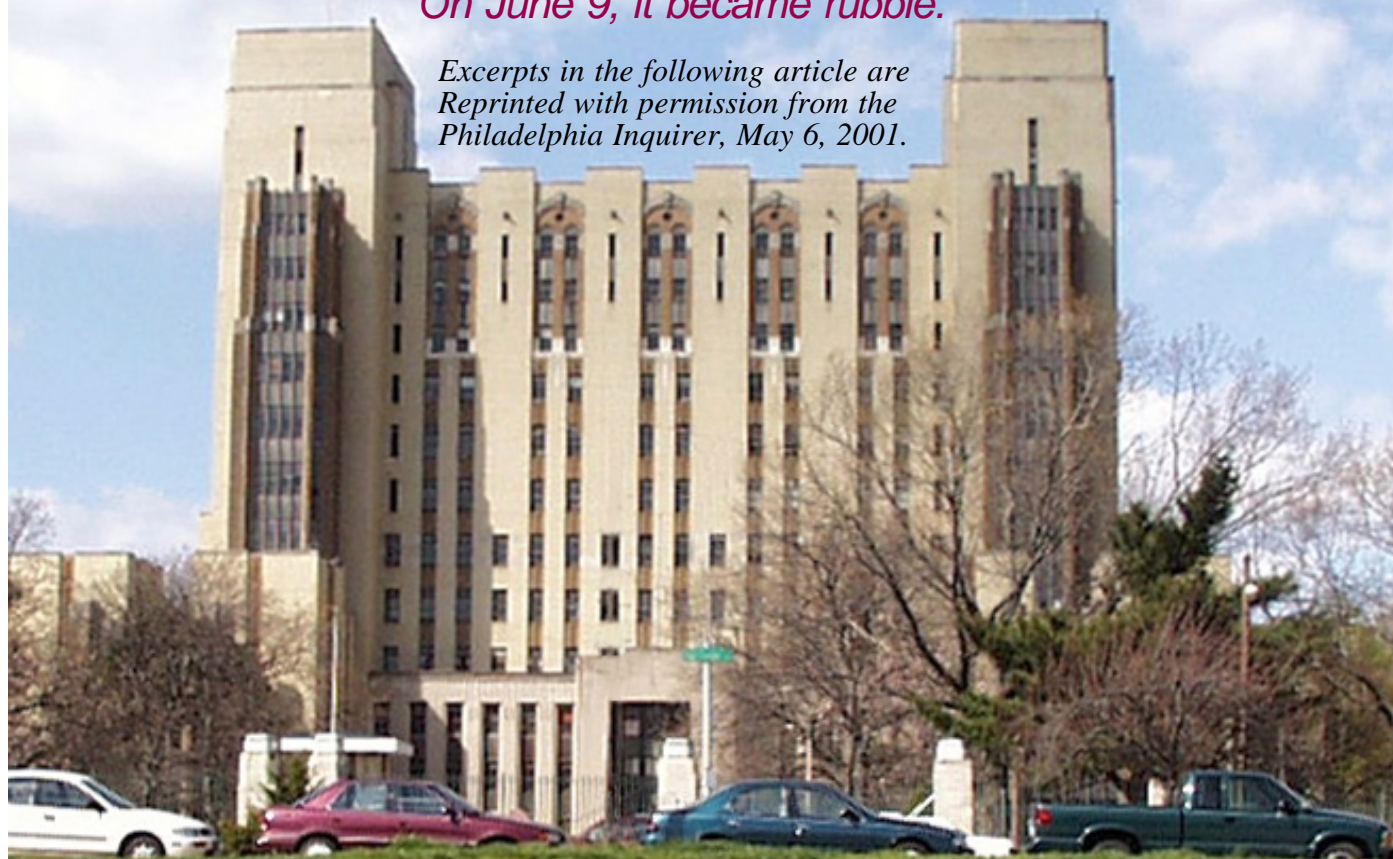
Naval Facilities Engineering Command

Summer 2001

Final Bell For Naval Hospital Philadelphia

*Vacant and useless, some said. Art deco, said others.
On June 9, it became rubble.*

*Excerpts in the following article are
Reprinted with permission from the
Philadelphia Inquirer, May 6, 2001.*



Engineering Field Activity Northeast's (EFA NE) environmental folks watched with nostalgia this summer as the Naval Hospital Philadelphia tower was imploded. Former BRAC environmental manager Joe Roche, with the help of several environmental professionals, worked for years to ensure that environmental risks at the hospital were assessed and that media posing any potential harm (asbestos and UST-contaminated soil) were first removed. The 12-story Naval Hospital, built at a cost of 3.2 million, opened in 1935. The 66-year-old building was a distinctive South Philadelphia landmark. Designated for closure in the 1988 round of BRAC, the hospital was closed in 1991, conveyed to the city on April 20, 2000, and demolished on Saturday June 9, 2001, evoking fond recollections from those who worked there and from former patients.

(Story on page 6)



From the Department Head's Desk

By Conrad Mayer, P.E.
Head, Environmental Department

The fiscal year is drawing to a close, re-engineering is complete, the office moves are almost done; so it's time to start looking ahead. There are challenges and opportunities awaiting us, and now is the time to start delivering on our promises – we did reorganize for a reason!

A big priority for me next year is to formalize our alignment with the Region. We need to define our roles and responsibilities, and reach agreement on the processes that will best accomplish our environmental mission.

Just as we have restructured under re-engineering, the activities have re-structured under regionalization. Making everything mesh, in all the facility support areas, is the task at hand. It's a large and complex task, so it won't be easy; but if we work with the common purpose of forming an efficient, effective partnership, the results will be well worth the effort. Let's get started!



Diana McPherson-Bartlett 1967–2001

This issue of Environmental News is dedicated to the memory of Diana McPherson-Bartlett, a risk assessor in our Restoration Technical Branch and beloved member of our Environmental Department family. Diana passed away on August 27 after a long illness. She will be sorely missed.



EFA Northeast Environmental News
is a quarterly publication of the
Environmental Department
EFA Northeast

Naval Facilities Engineering Command
10 Industrial Hwy, Mail Stop 82
Lester PA 19113-2090

www location: <http://www.efane.navfac.navy.mil>

DSN 443-0567; COMM (610) 595-0567 FAX -0555

The Environmental Newsletter has been placed on the
DENIX system under Navy/News.

The EFA Northeast Environmental Department does not endorse companies or products mentioned. Our primary target audience consists of Navy people at activities in our area of responsibility (the northeastern states) who are involved in environmental programs. The views and opinions expressed in this publication are not necessarily those of the Department of the Navy. We invite your contributions, comments and questions. To hold down costs, *Environmental News* is printed in black and white. Visit our website if you prefer to view or print a full-color version.

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RISK CORNER

Natural Resource Injury/ Natural Resource Damages

Risk Assessment Self Directed Work Team

Diana Bartlett, Dave Barclift, Jason Speicher

In July 2001, CNO N45 released a fact sheet entitled Natural Resource Injury, Trustees and Damages. The purpose was to provide information on natural resource injury (NRI) and clarify the difference between a NRI and a natural resource damage (NRD). In addition, the document delineates who the trustees of natural resources are, the Department of the Navy (DON) position on natural resource damages, and describes which processes may determine and address an NRI.

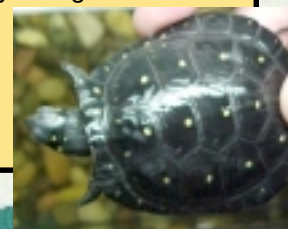
According to the 43 CFR Part 11.14(v), a NRI means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to the release of a CERCLA hazardous substance. Natural resource damages are, as defined by the 43 CFR Part 11.14(l), the amount of money sought by the natural resource trustee as compensation for injury, destruction, or loss of natural resources as set forth in section 107(a) or 11(b) of CERCLA. In summary, NRIs are actual adverse changes (injuries) to a natural resource, whereas NRD represents the monetary value assessed to that change (injury). It is important not to confuse injuries and damages when talking about natural resources, because “damage” implies a monetary responsibility and the “injury” does not.

The focus in DON is on both, determining whether an NRI has occurred *and* on preventing a NRI from occurring as a result of future CERCLA cleanup activities. During an ecological risk assessment (ERA) the Navy investigates to determine the likelihood that the release of a CERCLA hazardous substance has injured a natural resource. In addition, we try to avoid additional in

Example of an NRI

During the investigation of a construction debris landfill site, a cleanup contractor discovered that a population of spotted turtles had made the landfill their home (habitat). In order to remediate the landfill site, the spotted turtles' home would be destroyed.

In this case, the injury to the natural resource (NRI) would be the destruction of the habitat. The turtles are presently being “tracked” in order to ensure easy capture, temporary relocation, and return in case remedial action is needed.



(Continued on next page)

jury to a natural resource by evaluating all viable cleanup technology alternatives. The Navy selects cleanup technologies, whenever practicable, that will result in the least amount of residual NRI. In some instances where cleanup technologies are predicted to result in a NRI, the Navy may initiate projects to address those injuries.

If DON is unable to restore the impacted natural resource, the natural resource trustee(s), other than DON, may want to follow the natural resource damages assessment (NRDA) process prescribed by Department of the Interior and Department of Commerce. After a NRDA has been performed, the trustee(s) of the natural resource can seek damages for the injury to or loss of the use of the natural resource. The trustee can file a NRD claim only after the response action (final environmental cleanup action) has been completed. Monies obtained through a NRD can be used only to restore, replace or acquire the equivalent of the injured natural resource. It is important to note that no claims will be paid using DON environmental restoration cleanup funds. NRD claims are typically paid by the Department of Justice (DOJ) Judgment Fund.

For information on the CNO fact sheet on NRI/ NRD, contact: Office of the Chief of Naval Operations (N45): (703) 604-5420 or view the Department of Navy Environmental Program website: <http://5yrplan/nfesc/navy.mil/>. (Click on Community Program, then on Fact Sheets and select the NRI fact sheet.)

Information used in this article was obtained from the Natural Resource Injury, Trustees, and Damages Fact Sheet.

Work Group Meets To Assess Risks

By Diana Bartlett

Risk Assessor

On July 17–18, a meeting of the Risk Assessment Work group (RAW) was hosted here at EFA Northeast. In attendance were representatives from nearly all the EFAs and EFDs, in addition to representatives from SSC, NFESC, CNO and NavFac Hq. Several contractors and outside personnel also attended the meeting to present technical and informational talks.

The RAW was established in FY 2000 to assist and advise navy installation restoration



“Natural resources are land, fish, wildlife, biota, air, water, groundwater, drinking water supplies and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, state/local government or federally recognized Indian tribe.” – 40 CFR 300.5

[Editor’s note: Pretty “hairly “ stuff , eh? And we have the scientists to handle it. We even have an actual risk corner as Diana, Dave, and Jason for the first time now have adjacent offices (close to the restoration technical managers they support). Christine Eisner, an entomologist finishing up rotation with the Risk Assessment Self Directed Work Team was a major contributor to this article.]

managers and remedial project managers as they apply the human health and ecological risk assessment processes to their sites. RAW meetings are a format for risk assessors and technical experts to exchange information and lessons learned. Since the establishment of the work group, sub-groups have been formed to address the following topics: background concentrations, sediments, ecological monitoring, natural resource injury and research and development. At the meetings of the RAW, the sub-groups meet separately to discuss issues relevant to their subject matter and provide updates to the entire RAW. Below is a summary of some of the topics discussed or presented at the meeting.

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Make the Best Use Of Intangibles

By Orlando J. Monaco, P.E.

RPM, Installation Restoration Division

Many times, for many reasons, remedial project managers must modify or supplement their workload when they become involved with a new federal facility. New assessments bring with them different types of cleanup, different work schedules, different funding issues, and different people to deal with. Issues that were critical, or at least of major concern in one project, may be no more than of passing interest, hardly worthy of mention in another. Conversely, issues that were very minor elsewhere now can take on monumental proportions.

For example, on a BRAC base, timing for completing the environmental work may be critical as the new landowners try to coordinate land takeover with potential buyers, renters, users, etc.. Re-use isn't an issue at a base that is remaining operational. Ironically however, BRAC bases, especially those on the National Priorities List (NPL), can usually budget for and receive the funds necessary to perform its environmental investigation and cleanup easier than those that are remaining open. While the cleanup at non-closing bases is as important, generally there are more bases

chasing fewer dollars; so funding become critical and methods to fund the work becomes more creative.

Although these considerations are frequently viewed as differences, they're really just variations of a common theme. When taking over a new facility, it's better to look for the commonalities. For example, while the prime contaminants of concern, often VOCs, vary among facilities, the process by which we investigate and remediate

them are very similar. Manipulating funding, whether BRAC or ER,N, is still an art where we "artists" work with dwindling supplies, short-notice pull backs, burn rate, etc.

All these tangible issues are certainly important, as the failure of any one of them can bring the project to a halt. However, it's the intangible, dealing with the people, that best defines whether you'll be successful completing your project on the time and within budget. Different people bring a whole new array of agendas and personalities to the table. EPA policies can differ between regions and between project managers; same thing for state agencies. Many technical committees have consultants to represent the townships within which the federal facility is located, or community groups interested in how the Navy conducts its cleanup. Again, it's to your benefit to look for the common

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Work Group Meets To Assess Risks

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CNO distributed the draft sediment policy along with a fact sheet on Natural Resources Injury (see the NRI article in this issue). A final sediment policy is due out by the end of August. CNO is also writing a NRI policy. This is due to be finished by September 2001.

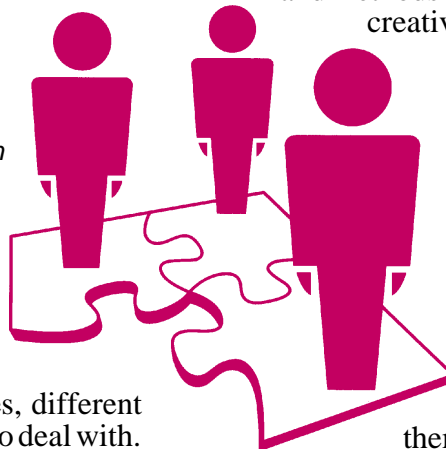
The ecological and human health guidance websites were discussed and updates were provided so that these tools would be current for the users. The link to the websites are http://erb.nfesc.navy.mil/support/work_grp/risk_assess/main.htm. These websites provides the Navy

policy and guidance on conducting human health and ecological risk assessments.

The background subgroup provided a discussion of the comments received from the RAW on the soil background guidance. Dave Barclift at EFANE is the chair of this subgroup. Look for a draft soil background guidance by the end of the year. Also, each EFD/A presented information about their experiences with using background concentrations in their risk assessments.

The sediment subgroup presented its schedule for the draft sediment guidance. Jason Speicher at EFANE is the chair of this subgroup. The sediment guidance will address both human health

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Farewell To A Piece Of Philadelphia Naval History

Naval Hospital Evokes Memories

(Continued from front page)

Frank Morris, 58, stationed at the hospital for seven years until he retired as a Navy commander in 1992, recalled being told that when the hospital was built, trees from all 48 states were planted on the grounds. He also remembers a two-block-long structure – basically a hallway – that connected the

GOING...



main building to various wards. It was nicknamed “Burma Road.” Motorcycle daredevil Evel Knievel once rode its length to entertain patients. The hospital also had a cameo appearance in the 1945 film *Pride of the Marines*, starring John Garfield.

Former U.S. Sen. Bob Kerrey, now caught up in controversy over his acknowledgement that he killed civilians in Vietnam, lost part of his right leg to a grenade and spent nine months recovering at the Naval Hospital. In a recent interview with *Time Magazine*, Kerrey said it was not Vietnam but his experience at the hospital – bonding with other patients and questioning the war – that was “the most important and defining period” of his life.

Soon the hospital will be replaced by a 1,500-car parking lot to be used during construction of the stadiums for the Eagles and Phillies. Once construction is complete, the city might turn the former

hospital property into a residential development and parkland. Demolition of all the hospital buildings cost the city \$4.4 million.

All through its history, the hospital was nagged by complaints that it was oversized, with too many empty beds. But the capacity – a total of 650 beds when it opened – proved vital during wartime. Even now, as the hospital meets its demise, concern was expressed by some residents over the health risks from dust and asbestos and about property damage from vibration during the implosion.

Throughout World War II, the hospital was the main recovery facility for Navy amputees east of the Rocky Mountains. The hospital, with its “brace and limb shop,” was a pioneer in the making of prosthetic devices. By the time of the Vietnam War era, the hospital had 1,100 beds.

In later years, the hospital became a premier training and research facility, said Donald Castell, now chief of medicine at Graduate Hospital. He was head of clinical research at the Naval Hospital from 1969 to 1975. Research conducted at the hospital served as the foundation for heart-burn drugs such as

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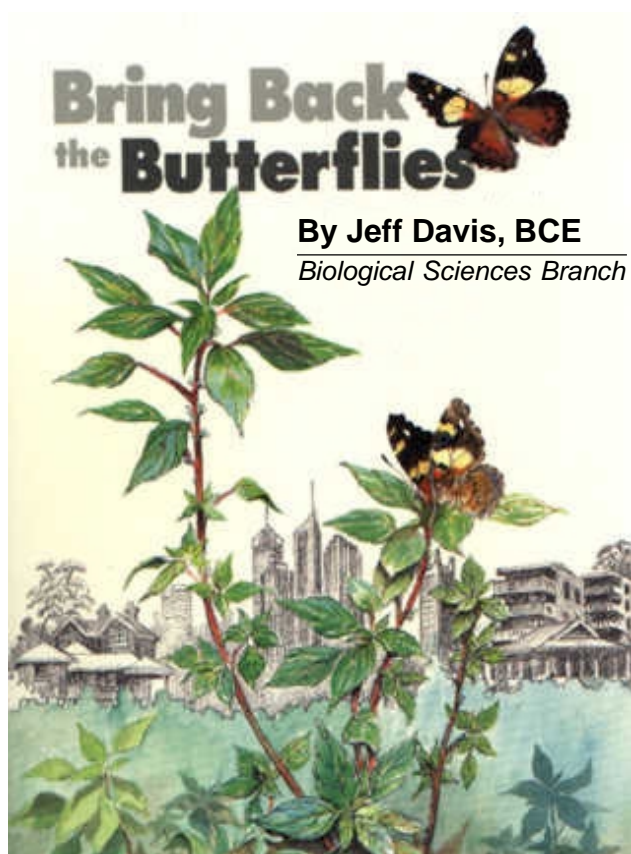
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GONE!



The 66-year-old Philadelphia Naval Hospital in South Philadelphia was imploded to make way for a 1,500-car parking lot to be used by Phillies and Eagles fans.



By Jeff Davis, BCE

Biological Sciences Branch

Heading west on Highway 17 in New York State, I discovered a secret killing ground for butterflies. Yes. A man-made area that lured these beautiful lepidoptera to instant, heartless, and ignoble death. I was amazed that such a thing could be built and allowed to exist. But there it was. Beautiful and deadly, couched under the title of “money-saving improvement initiative.”

It was called a wildflower development area. You have probably all seen them. Areas where highway departments establish stands of wildflowers in the medians and along roadsides. Naturalists love the idea..... more natural stuff. Highway departments praise the idea..... less mowing..... saves money. Motorists embrace the beauty of miles of pretty flowers waving in the gentle breezes of passing autos. And butterflies, lured to the pollen that is their only food, pay a heavy price when smashed flat on windshields.

The point: Almost everything in life is a “trade-off.” Pesticide use in the DoD is an excellent example. Most of us don’t want cockroaches in our homes, and would welcome the exterminator to our residence. There is little doubt that most folks accept chemical control of mosquitoes that transmit West Nile virus. Yet, pesticides are not completely without risk. So

(you ask on cue), “What is the Navy doing to control bugs, rodents, animals, weeds, and other stuff we don’t want while minimizing risk to us and ours”?

It’s called integrated pest management (IPM). IPM is required (by regulation) and implemented at all DoD installations by a pest management plan. IPM is a management system that requires pre and post-treatment surveys. IPM emphasizes non-chemical control techniques such as sanitation, exclusion, and physical/mechanical controls. IPM includes the use of effective, least toxic, target-specific pesticides if needed. “Smart” delivery systems have been developed to put product where the pest is (not where humans are). The bad old days of hosing down the baseboard to kill a few spiders in the rafters are gone (or should be).

Pesticide use is still a “trade-off” and always will be. It’s like driving a car.... There is always risk. Most feel that the risk of contracting Lyme disease is greater than the risk from pesticides used to control ticks that transmit it. However, most pest control decisions are not as well defined. So, in the DoD, we require the use of IPM as the decision/method tool. And it works. Since 1993, the DoD has reduced the amount of pesticide active ingredient applied by over 50%, and I think we have less pressure from pests than we used to.

I figure that during that drive in New York State, at least 35 butterflies became victims to the windshield and grill of my minivan. At the same time, I truly admired the miles of beautiful flowers along the roadside. Being a lover of beauty, I regretted the loss of those stunningly beautiful arthropods but admired the flowers. Being a good entomologist, I knew that the wildflowers supported a higher population of butterflies than would normally be there and that the incidental take by autos was insignificant to the overall population. However, being a realist, I must ask the question, “Why not plant the flowers farther from the road?” I feel that way about pesticides too.

Environmental Factoid

~ An example to put “parts per billion” in perspective: If you cut an aspirin tablet into 6 equal parts and dissolved one-sixth of the aspirin tablet in 16,000 gallons of water, you would have about a part per billion of aspirin solution. If you drank this water at a rate of a half-gallon per day, it would take you 88 years to consume all 16,000 gallons and ingest the one-sixth aspirin tablet!

ARCVIEW GIS INTEGRATED WITH OTHER APPLICATIONS TO BETTER MANAGE AND VISUALIZE ENVIRONMENTAL DATA AT NAS BRUNSWICK

By Bai Tian and Al Easterday

EA Engineering, Science and Technology, Inc.

At Naval Air Station (NAS), Brunswick, Maine, a groundwater sampling program has been conducted by the Navy since 1995. The main purpose of this program is to monitor the distribution of dissolved VOCs in the Eastern Plume site, including TCE, PCE, 1,1,1-TCA, and DCE in ground water. The Navy has an operating pump and treat system in place to remove groundwater contaminants, and maintain hydraulic control of the VOC plume. Figure 1 shows the major investigation and remediation sites and the approximate boundary of the Eastern Plume. Groundwater sampling has been conducted at 40 monitoring wells during 17 sampling events, resulting in the generation of more than 140,000 data records of chemical concentrations.

To allow decision makers to access and visualize these data, EA integrated ArcView GIS with several other software applications, including groundwater modeling system (GMS 3.0) by Brigham Young University, EquiS Geology by EarthSoft, and RockWorks99 by RockWare. The major visualizations that were generated to facilitate use of long-term monitoring data included generation of 3-D representation of surface topography, site geology and hydrogeology, and temporal changes in groundwater contaminant concentrations.

3-D Representation of Site Topography

Using ArcView 3D Analyst, 3-D topographic maps of the study area were generated from USGS 7.5-minute quadrangle Digital Elevation Model data. From this, animation files were generated so data users could visualize surface topography and the relative distances of the Eastern Plume to nearby coastal areas. These spatial relationships are useful for understanding groundwater plume position relative to potential offsite receptors and property owners.

3-D Visualization of Site Geology and Hydrogeology

EquiS Geology was selected because this software has relatively easy-to-use interfaces to ArcView GIS, GMS, RockWorks, and other applications. Therefore, existing site data could be shared between applications with minimal effort. The geologic data from approximately 400 boring logs at the site were entered into an EquiS Geology database.

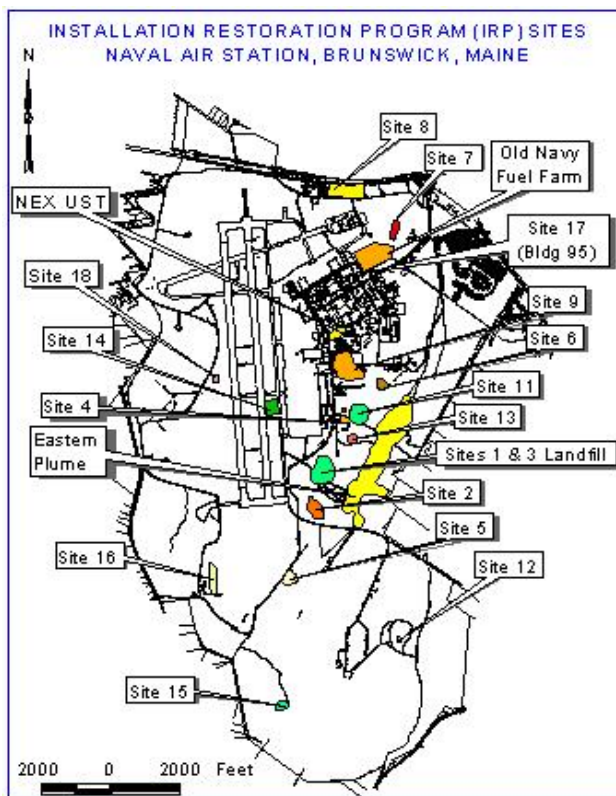


Figure 1. Graphic showing the major Installation Restoration Program sites at NAS Brunswick, Maine.

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GIS AT NAS BRUNSWICK

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These data could then be used to generate 2-D and 3-D representations of site geologic strata.

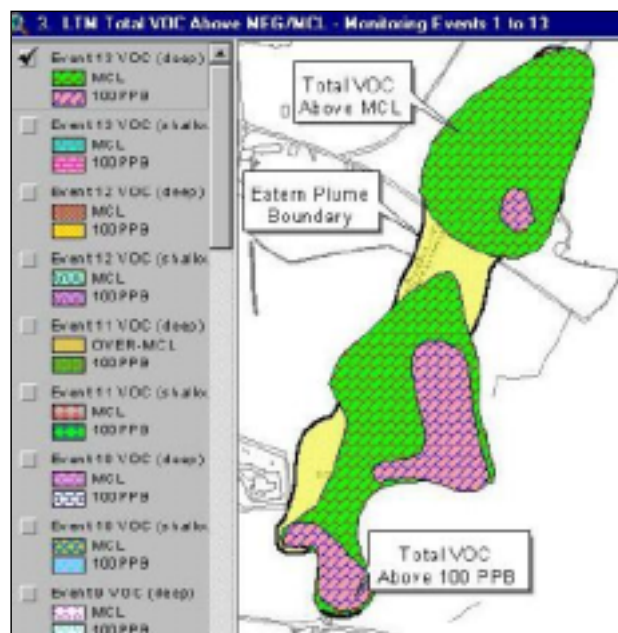


Figure 2. Variations of total VOCs in the Eastern Plume area over the 13 monitoring events, imported from AutoCAD drawings.

Water table contour maps were also added into the ArcView project to allow data users to quickly review changing groundwater flow patterns with time. Contours of the total VOCs (figure 2) were also included so data users could overlay changing plume shapes with time, and compare VOC distribution with groundwater flow patterns.

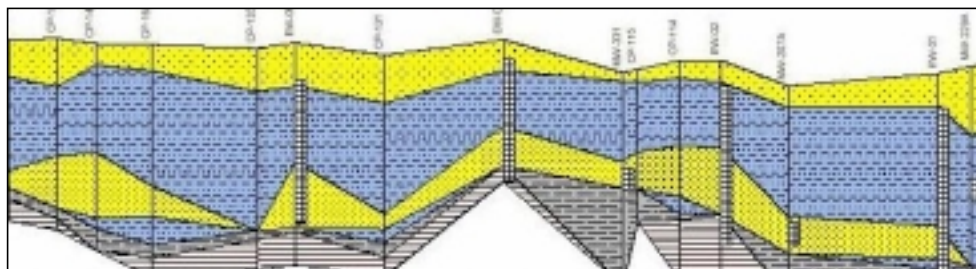
The distribution and transport of the contaminants are heavily influenced by the geology of the Eastern Plume area. In the Eastern Plume area, many sampling points were installed to collect geologic data, such as the major geologic units and their thickness, geophysical conductivity, and groundwater elevation.

It is very helpful for the data users to be able to select a sampling point and directly view its geologic log, draw a cross-section line through the wells on the GIS map and see the 3-D cross-sections and fence diagrams, and select the wells and get a 3-D stratigraphy model. This is made possible by the ArcView interface of EquiS Geology, from which GMS, RockWorks, and LogPlot programs can be launched to create geologic boring logs, cross-sections, fence diagrams, and 3-D solid stratigraphy models.

To permit visualization of site geology relative to surface features, the USGS 7.5-minute Brunswick Digital Raster Graphic quadrangle map was draped over the surface of a 3-D stratigraphy model. Once constructed, cross-sections and fence diagrams can be cut from the 3-D solid model to better visualize the spatial variation of the geologic units. Within the EquiS Geology ArcView interface, the user can also draw cross-section lines on the 2-D map and view the 3-D geologic cross-sections and fence diagrams as shown on figure 3.

With the easy-to-use interface, ArcView and other related software programs were used to assist decision-makers interpret geological and environmental data. Three-dimensional visualizations of NAS Brunswick, Maine, are highly useful for analyzing and interpreting complex data sets.

Our case study shows that by integrating ArcView GIS with other applications, such as EquiS Geology, GMS, RockWorks, and AutoCAD, useful interpretations were made from the large amount of the data collected between 1995 and 2000. These interpretations are used to make decisions related to environmental cleanup engineering design.

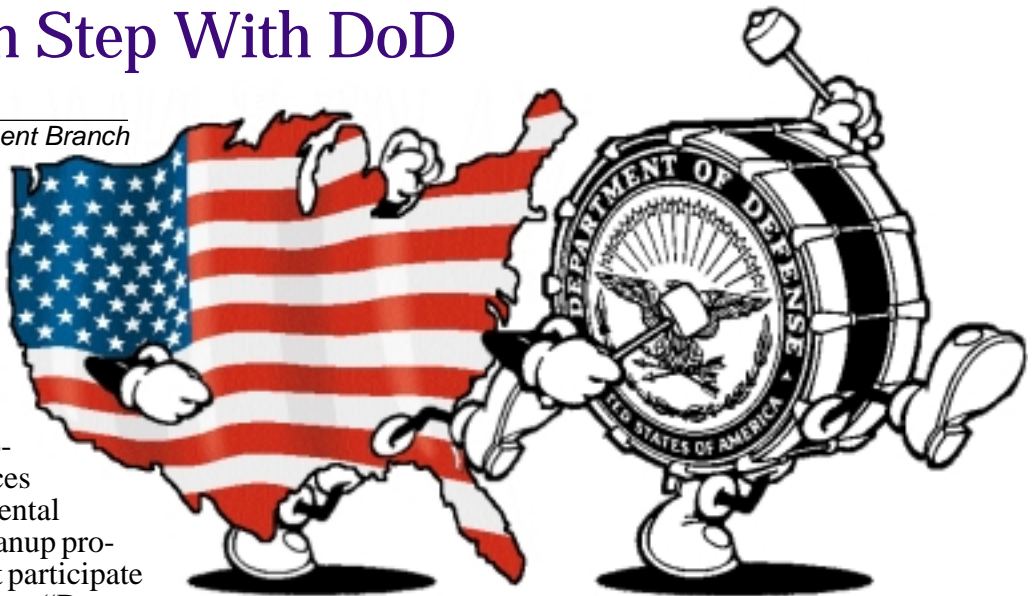


States Stay in Step With DoD

By Bob Lewandowski

*Head, Restoration Management Branch
Delaware Valley Team*

Every two years the Navy, as well as the other armed services, begin the process of negotiating cooperative agreements (CA) with certain states, commonwealths, U. S. territories, and the District of Columbia for regulatory services in support of the Environmental Restoration and BRAC cleanup programs. The states, etc., that participate in this effort have entered into a "Department of Defense and State Memorandum of Agreement" (DSMOA), which was established by the Superfund Amendments and Reauthorization Act (SARA), enacted October 17, 1986. The goal of the DSMOA program is to expedite environmental restoration at Department of Defense (DoD) facilities through partnerships with the states. This is accomplished through improved communication, coordination, and cooperation between the states and DoD Services. The Headquarters, U. S. Army Corps of Engineers (HQUSACE), administers the DSMOA/CA program through the services.



The six-step process for development of the CA is summarized below:

Step 1 June/July	States initiate development of the CA package by notifying service POC that they are starting their two-year CA application process.
Step 2 June/Aug	Services prepare a detailed breakout of deliverables and activities during the 2-year CA period, as well as a general summary of activities planned for the following four years. This plan is shared with the state project managers and modified in accordance with their input.
Step 3 Sep/Oct	The state grant administrator develops the CA budget for their anticipated efforts based on the workload agreed upon in Step 2.
Step 4 Oct/Nov	Service representatives review the States CA Budgets and discuss and agree on the reasonableness of the states' efforts/costs.
Step 5 Jan	States prepare the CA application package and Submit it to HQUSACE.
Step 6 Feb/April	Services forward funds to HQUSACE. HQUSACE prepares CA approval letter and forwards signed letter to the states no earlier than April 1.

We are currently right on track here at EFA NE. Our remedial project managers (RPMs) have been working with their state counterparts to prepare the two-year work plans and cleanup narratives for the next four years. Once all of the work plans and narratives for a state have been completed and signed by both the EFA NE and state RPMs, our DSMOA/CA POCs, Franco LaGreca (New England Team States) and Bob Lewandowski (Delaware Valley Team States) will begin the coordination/negotiation process with the State DSMOA/CA grant administrators. If you would like to know more about the DSMOA/CA process, feel free to call Franco (ext. 166) or Bob (ext. 126) at 610-595-0567 or DSN 443-0567.

First Keel Laying Marks Grand Opening of Kvaerner Philadelphia Shipyard

In a June 20 ceremony, Kvaerner Philadelphia Shipyard (the former Philadelphia Naval Shipyard) celebrated its grand opening and keel laying for the first CV 2600 Philadelphia-class containership. Keel laying is the long-standing maritime tradition of setting the first critical piece of the ship's hull around which the rest of the ship will be constructed.

Norwegian shipbuilder, Kvaerner, known as one of the world's leading builders of container vessels, tankers, LNG carriers and cruise ships, worked with the Philadelphia Shipyard Development Corporation in revitalizing a 114-acre portion of the old shipyard.

While developing the environmental baseline study (EBS), finding of suitability to lease (FOSL), and finding of suitability to transfer (FOST), EPA NE realized that none of the 114 acres at the Philadelphia Shipyard were more crucial for re-use than the two acre drydock No. 4. Without drydock No. 4, the city could not have attracted Kvaerner.

On the environmental planning and cultural resources side we performed the National Historic Preservation Act, Section 106, compliance effort needed to demolish existing buildings on the site and the construction of the new facilities within a historic



The keel laying ceremony celebrates the laying of the first timber and can be traced back to early Navy ship building. The current ceremony, maintains the tradition, but has been modified to take into consideration updates in materials, technology and techniques. It's really a module-laying ceremony.

district that is eligible for listing on the National Register of Historic Places. This included facilitating negotiations between the tenant and the Pennsylvania State historic preservation officer who determined the mitigation required to offset for demolition of a portion of a historic district.

The inaugural keel laying represents the rebirth of shipbuilding in Philadelphia.

Naval Hospital *(Continued from page 6)*

Tagamet, said Castell, whose specialty is gastroenterology. Of the implosion, he said, "I feel like a part of me is going to disappear."

For years, the hospital was threatened with closure. Finally, in 1991, it was decommissioned, and in 1993, the Hospital property was determined to be eligible for listing on the National Register of Historic Places as a historic district. During the disposal planning for the Naval Hospital, National Historic Preservation Act consultation between the Navy and the Advisory Council on Historic Preservation was terminated by the Navy. This was the first time that the Navy had taken such an action in

twenty years. A record of the Hospital was made by the Navy, and was repositied in the Library of Congress. As a result, the Navy was able to transfer the Hospital to the city of Philadelphia without any historic preservation restrictions.

The Navy and the city studied various uses for the main building, which preservationists had argued was historic and architecturally significant. G. Craig Schelter, executive vice president of the city's industrial development corporation, said the studies concluded that saving the building would not be feasible.

So ends another chapter in what was once part of an important and proud Philadelphia Naval history.

Make the Best Use of Intangibles

(Continued from page 5)

threads that you've experienced and worked through before to help you deal with your new assignment.

As the lead agency in addressing environmental cleanup at naval facilities, it is the Navy's task to provide the various deliverables to the regulators/consultants for their review and comment. Do you involve them early in the process? You should, as this is a great way to clarify either the scope of a work plan or direction of an investigative report before tasking the contractor to prepare it. All parties will know what to expect. Make them a part of the process from the beginning, rather than giving them a "cold" document for their comment/review later. Remember, while we're coming from different sides, we have (or should have) the same goals. Do all that you can to downplay the "us versus them" scenario.

Next, no matter how thoroughly you've incorporated their vision of what they want in these documents (within your vision of it), they invariably will suggest changes. Let's say that your document is absolutely correct in its concept, scope, execution or results. You don't need to change a thing about it. Should you, just because a regulator suggests that you do? It depends. Adding a few samples in order to build consensus may have a much bigger long-term impact than the initial cost of the work. Also, by agreeing to a predetermined objective in the work plan, the number of samples becomes a function of how "best" to accomplish the objective. It will become easier to work as a group to modify the work plan to best satisfy the agreed-

upon objective. It also helps build the "team" attitude and shows a willingness to listen and incorporate change. Would it hurt to add several monitoring well locations? Maybe not, but cost may be a factor. Be sure that the regulators are sensitive to funding constraints. After all, they are facing the same thing, so they probably will be able to relate quite easily, but you should be careful not to appear to limit investigation solely because of low funding. How about a compromise where you offer to move one or more of the proposed wells closer to where they wanted to place the additional ones, and still satisfy the data quality objectives of the work?

Data evaluation is another area of compromise. Many times the Navy believes that it has all the data it needs to accurately evaluate the field conditions and move on to proposing a remedial/removal action, modifying an existing remedy, or taking no action at all. Keep in mind that there are no absolutes. Since we can't peel back the top layer of the ground and peer into the underlying strata, the best we can hope for is a comfort level from which we can make reliable and supportable decisions. We call this engineering judgment. Is this comfort level 80%, 85% or 90%? All we know is that it's something less than 100%. The discussion comes in when deciding how close we are to 100% versus how much closer we can get with additional sampling. Recognizing this will help all sides to be more receptive to what the others are saying.

These are a few of the many areas where how we interact with our counterparts will determine how successful or painful our experience with them will be. The good news is that it's our call.

Work Group Meets To Assess Risks

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and ecological risk processes as it relates to sediments.

One of the major accomplishments of this meeting was the formation of the Research and Development subgroup which will evaluate proposed projects (relevant to risk assessment) for funding through YO817 funding. The YO817 fund was established by the Navy to serve as a demonstration/validation research program that helps the expedition of regulatory acceptance of innovative technologies at Navy and Marine Corp sites.

Projects that relate to ecological and human health will be submitted to this subgroup. The projects selected will have potential to be useful at Navy and Marine Corps activities.

The meeting was a success, and members were able to concentrate on topics at hand at the EFANE headquarters and even at a barbecue at Dave Barcliff's house on the evening of the 17th!

If you have any concerns that you would like brought up at the next risk assessment workgroup meeting, please provide them to Al Haring, Environmental Restoration Division Head. (610) 595-0567, ext. 143.